California Regional Water Quality Control Board
Santa Ana Region

June 1, 2001

ITEM: 16

SUBJECT: Consideration of Beneficial Use Assessment Work Plan for Shellfish Harvesting in Newport Bay (Resolution No. 01-59)

BACKGROUND:

On April 9, 1999, the California Regional Water Quality Control Board, Santa Ana Region (Regional Board), adopted Resolution No. 99-10, which amended the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) to establish a Total Maximum Daily Load (TMDL) for fecal coliform in Newport Bay. A copy of the TMDL is attached to this report.

The objective of the fecal coliform TMDL is to address bacterial water quality problems in Newport Bay that adversely affect its beneficial uses, including water contact recreation (REC-1) and shellfish harvesting (SHEL). These problems are described in the attachment ("3. Bacterial Contamination", pages 1-2). Briefly, due to consistently high levels of total coliform bacteria, the upper portion of Upper Newport Bay (Upper Bay) has been closed to these uses since 1974. In 1978, the shellfish harvesting prohibition area was expanded to include all of the Upper Bay, and the Orange County Health Care Agency (OCHCA) generally advises against the consumption of shellfish harvested anywhere in the Bay. The bacterial objectives specified in the Basin Plan to protect shellfish harvesting activities are rarely met in the Bay. These objectives are significantly more stringent than those established to protect water contact recreation. In general, there is good compliance with the water contact recreation objectives in the summer (dry weather). However, certain areas of the Upper and Lower Bay are closed to water contact recreation on a temporary basis in response to wet weather. The Basin Plan bacterial quality objectives for both SHEL and REC-1 protection are based on fecal coliform bacteria. (It may be noted that the OCHCA, which is responsible to post areas to warn against water contact recreation and shellfish harvesting, relies on a suite of bacterial indicators to assess public health risk (total coliform, fecal coliform, *E. coli*, and enterococcus), pursuant to AB 411).

Data collected by the OCHCA demonstrate that tributary inflows, composed of urban and agricultural runoff, including stormwater, are the principal sources of coliform input to the Bay. As expected, there are more violations of bacterial standards in the Bay during wet weather, when tributary flows are higher, than in dry weather. There are few data on the exact origin of the coliform in this runoff, but sources include manure (applied to agricultural crops and commercial and residential landscaping); fecal wastes from humans, household pets and wildlife; and food wastes from restaurants.

Table 5-9f shows the fecal coliform TMDL and the wasteload allocations and load allocations assigned to the identified sources. The TMDL is the density of fecal coliform

organisms per volume of water. (It is the density of these organisms, and not their total number (or "load") that is significant with respect to the protection of beneficial uses. Thus, the TMDL is based on density rather than load.) The densities established in the TMDL are equivalent to the Basin Plan fecal coliform objectives for REC-1 and SHEL, with compliance to be achieved as soon as possible but no later than 2013 and 2019, respectively. As seen in Table 5-9f, a comparable approach is taken in specifying the wasteload and load allocations. The only exceptions are the allocations for vessel waste discharges. Wasteload allocations of zero are specified, reflecting the designation of Newport Bay as a "no discharge" harbor for vessel sanitary wastes.

Table 5-9g outlines an implementation plan leading to compliance with the TMDL and the REC-1 and SHEL water quality objectives. This plan requires that a series of tasks be implemented, resulting in the development of an updated TMDL report (Task 9). The fecal coliform TMDL requires that proposed plans be submitted to implement the tasks identified therein. It also specifies that the plans are to be implemented within specified time frames once the Regional Board approves the plans.

Orange County, the Cities within the watershed (Santa Ana, Costa Mesa, Newport Beach, Orange, Lake Forest and Tustin), The Irvine Company and agricultural operators in the watershed are responsible for fecal coliform discharges to Newport Bay. These parties are thus responsible to prepare the plans required by the TMDL and to implement them once approved by the Board. In accordance with the TMDL implementation plan (Table 5-9g, Task 3b), the County of Orange's Public Facilities & Resources Dept. (OCPF&RD) (on behalf of the Cities of Orange County) submitted a work plan for the Beneficial Use Assessment for Shellfish Harvesting in Newport Bay on March 1, 2001. A copy of this work plan is attached. The TMDL specifies that the assessment is to be completed within 13 months of Regional Board approval of the work plan.

Copies of the proposed work plan were distributed to interested parties. Comments on the proposal were requested by April 2, 2001. One comment letter was received from the Natural Resources Defense Council on that date. A copy of that letter is attached. A written response will be prepared.

Board staff has reviewed this work plan and finds that it is generally acceptable. However, we have some remaining concerns and comments, which we have discussed with OCPF&RD staff. These comments/concerns, as described in an e-mail transmission to OCPF&RD, are summarized below.

Comments on Beneficial Use Assessment for Shellfish in Newport Bay

***Some bacterial testing should be conducted on typical shellfish samples since population size may not reflect high bacterial concentrations in the shellfish. This should be included as part of task 2 – resource survey, or included in task 4.1 with the water quality testing (depending on sites chosen for contaminant investigation). Samples of what appear to be healthy and unhealthy populations should be tested.*

Task 2 – Resource survey
***3 – Phase II – In reference to surveying "up to ten…shellfish beds…", a rationale is needed for limiting the number of sample beds to 10. If the number of shellfish beds found are high, then surveying 10 beds would be insufficient.*
The criteria for choosing sites for Phase II should also be specified.
***4 – Phase II – As stated above, bacterial testing should be conducted on typical shellfish samples from both healthy and unhealthy populations. (This task may be included here or as part of task 4 as long as both types of populations are tested.)*

Sorting and collecting – If bivalves under 5mm are "missed", how many does this generally include? and Does this method leave out certain species or immature bivalves of species that will otherwise be collected?

Task 3 – Beneficial Use Assessment – Shellfish Harvesting
Regarding the 2 week continuous monitoring period – it is unclear as to how many days monitoring will be conducted at each site. Also, during which season will the 2 week period occur in, and how will this 2 week period be chosen?
4 – Task 3.2 Design Exposure Data Collection Plan
Please include (in survey asking individuals whether they are harvesting shellfish for bait or consumption purposes), a question such as "Have you ever gotten sick after eating any shellfish taken from Newport Bay?" This may be useful information for future reference even though a health risk assessment is not planned for shellfish harvesting in Newport Bay.

Task 4 – Investigation of Beneficial Use Enhancement

Task 4.1 Screening Level Monitoring Investigation –
***1. Should include analysis of both water column and sediment samples. (This will be critical data for the assessment of substrate conditions.)*
2. Under "Sites to be monitored", it seems that #2, 4 and 5 are the same – if these are different, please clarify the differences.
***3. Under "Sites to be monitored" – there appears to be three main types of sites possible – 1. historical sites that no longer support shellfish populations, 2. sites with physical characteristics that appear to be able to support shellfish populations but do not, and 3. sites with unhealthy or sparse shellfish populations, or low diversity. However, a control site with healthy shellfish populations should also be analyzed for comparison.*
***4. Under "Sites to be monitored" – The number of sites to be monitored should be based on the number of each site" type" found in tasks 1 and 2.*

Task 4.2 Pilot Scale Substrate Investigation
1. It would be prudent to have 2 study sites plus a control for quality control purposes.

Task 5 Final Report
Product – Please submit reports quarterly rather than semi-annually.

We expect that appropriate revisions to the work plan to address these concerns will be received prior to the Board meeting. If so, staff will recommend that the Board approve the work plan, as provided in Resolution No. 01-59.

OCPF&RD has requested that the schedule for completion of the shellfish harvesting beneficial use assessment be extended from 13 months to 24 months. Board staff agrees that this extension is reasonable and justified based on the comprehensive nature of the assessment proposed and the length of time that is realistically required to complete it.

RECOMMENDATION:

Adopt Resolution No. 01-59, approving the work plan for the Beneficial Use Assessment for Shellfish Harvesting in Newport Bay proposed by OCPF&RD, as revised to address Board staff concerns. Resolution No. 01-59 requires the completion of the assessment no later than June 1, 2003.

California Regional Water Quality Control Board
Santa Ana Region

RESOLUTION NO. 01- 59

Resolution Approving a Work Plan for a Beneficial Use Assessment for Shellfish Harvesting in Newport Bay

WHEREAS, the California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. On April 9, 1999, the Regional Board adopted Resolution No. 99-10, which amended the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) to incorporate a Total Maximum Daily Load (TMDL) for fecal coliform in Newport Bay. The TMDL was subsequently approved by the State Water Resources Control Board, the Office of Administrative Law, and the U.S. Environmental Protection Agency.

2. The TMDL includes a fecal coliform implementation plan and schedule (Table 5-9g). The implementation plan requires the submittal of a proposed plan to conduct a shellfish harvesting beneficial use assessment in the Bay (Task 3 (b)). The TMDL requires that the shellfish harvesting beneficial use assessment plan be implemented within 13 months after Regional Board approval of the plan.

3. The County of Orange, the Cities of Irvine, Tustin, Newport Beach, Lake Forest, Santa Ana, Orange and Costa Mesa, The Irvine Company and agricultural operators in the watershed were identified as parties responsible for fecal coliform discharges to Newport Bay.

4. In a January 7, 2000 letter to the responsible parties, the Regional Board's Executive Officer requested the submittal of the shellfish harvesting beneficial use assessment plan and other plans required by the TMDL. This request was made pursuant to the authority provided by Water Code Section 13267.

5. On behalf of the responsible parties, the Orange County Public Facilities and Resources Department (OCPF&RD) submitted a "Beneficial Use Assessment for Shellfish Harvesting in Newport Bay, Work Plan", dated March 1, 2001.

6. Staff reviewed this proposed work plan and found it generally acceptable. However, staff identified some additional comments and recommendations concerning the study design that needed to be addressed before staff could recommend approval of the work plan. These comments/recommendations were discussed with OCPF&RD staff and appropriate revisions to the work plan were submitted.

7. OCPF&RD requested that the time for completion of the assessment be extended from 13 months to 24 months. Such an extension is reasonable given the comprehensive nature of the shellfish harvesting beneficial use assessment.

NOW, THEREFORE, BE IT RESOLVED THAT:

The Regional Board approves the "Beneficial Use Assessment for Shellfish Harvesting in Newport Bay, Work Plan" dated March 1, 2001, as amended by OCPF&RD. The assessment shall be completed no later than June 1, 2003.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on June 1, 2001.

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Gerard J. Thibeault
Executive Officer